

Exercises in Robotics2

Syllabus Number

4D306

Special Subjects

Elective 1 credit

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1. Course Description

The main topics are as follows:

- (1) Sensor and motor systems
- (2) Soccer robot
- (3) Rescue robot

2. Course Objectives

This class is the advanced course of exercises in robotics. In order to obtain the knowledge and skills of robotics, students will develop various robots.

3. Grading Policy

Students are evaluated based on the achievement of objectives and tasks.

4. Textbook and Reference

Textbook

Textbooks, robot kits, tools and computers are prepared.

5. Requirements(Assignments)

Students are required to pay 3,000 JPY for this lecture.

6. Note

7. Schedule

- [1] Introduction, checking your robot kit and setting up your software development environment
- [2] Fundamentals of robot making
- [3] Soccer robot: task and regulation
- [4] Soccer robot: looking for a ball
- [5] Soccer robot: dribbling a ball
- [6] Soccer robot: shooting a ball
- [7] Soccer robot: making a goal keeper robot
- [8] Soccer robot: game and evaluation
- [9] Rescue robot: task and regulation
- [10] Rescue robot: utilizing infrared sensors
- [11] Rescue robot: implementing line trace function
- [12] Rescue robot: looking for victims
- [13] Rescue robot: basic course I, II
- [14] Rescue robot: advanced course III, etc.
- [15] Summary